

### **REMARKS**

Applicants respectfully request entry of the above amendments and reconsideration of the following arguments pursuant to 37 C.F.R. § 1.111.

#### **1. Amendments to the Specification**

Amendments to the Specification (1) correct a misspelled word, and (2) inactivate an alleged hyperlink. The Amendments thus do not add impermissible new matter.

#### **2. Status of the Claims**

Claims 1-22 stand pending and rejected. Claim 14 stand objected to.

Upon entry of the present amendment, claims 2-5 and 14 stand canceled. Applicants amend claims 1, 6-11, and 15-16 to more distinctly recite the claimed subject matter. Support for the amendments can be found at least in the originally presented claims. Applicants amend claim 1 to incorporate elements from claims 5 and 14. Claims 6-11 stand amended to change their dependency. Applicants amend claims 15-16 to more precisely recite the claimed subject matter. Accordingly, Applicants do not believe that any prohibited new matter is being introduced by the entry of the above amendments.

The claims have been amended without prejudice to, or disclaimer of, the canceled subject matter. Applicants reserve the right to file a continuation or divisional application on any subject matter canceled by way of amendment.

#### **3. Acceptance of the Drawings**

Applicants appreciate the Office's acknowledgement that the drawings submitted June 15, 2006, have been deemed acceptable.

#### **4. Acknowledgement of Certified Priority Documents**

Applicants appreciate the Office's acknowledgement that all copies of the certified copies of the priority documents have been received from the International Bureau.

**5. Acknowledgement of Information Disclosure Statements**

Applicants appreciate the Office's acknowledgement of the Information Disclosure Statements filed June 15, 2006; April 18, 2007; and May 25, 2007.

**6. Allowable Subject Matter**

Applicants appreciate the Office's acknowledgement that nucleic acid sequences encoding the proteins comprising the amino acid sequences of SEQ ID NOS: 1, 3, and 5 are free of prior art. Office Action, page 15.

**7. Objections to the Specification**

The Office objects to the Specification as allegedly containing a misspelled word. Office Action, page 2.

Upon entry of the present amendments, the word "legating" on page 40 of the Specification has been replaced by "ligating" as kindly suggested by the Office. The objection is thus moot. Accordingly, Applicants respectfully request withdrawal of the objection.

The Office further objects to the Specification as allegedly containing embedded hyperlinks or other forms of browser-executable code. Office Action, page 2. Applicants have amended the specification to delete the reference, thereby mooted the objection.

The objections must be withdrawn.

**8. Objection to the Claim**

The Office objects to claim 14. Claim 14 allegedly recites "*a host*" that may refer to another host other than the plant recited in the base claim. Office Action, page 3.

Upon entry of the present amendments, claim 14 stands canceled, mooted the objection. Applicants respectfully request withdrawal of the objection.

**9. Rejection of the Claims Under 35 U.S.C. § 112, Second Paragraph**

The Office rejects claims 15-16 under 35 U.S.C. § 112, second paragraph, as allegedly indefinite. The Office argues that claim 15 recites “the expression suppressing step” that is not present in the base claim, claim 1. Office Action, page 3.

Upon entry of the present amendments, claim 15 as amended no longer recites an expression suppressing step. The rejection is thus moot. Applicants respectfully request withdrawal of the rejection and allowance of claim 15.

The Office argues that “same trait” recited in claim 16 is allegedly unclear. Office Action, pages 3-4.

Applicants appreciate the Office’s suggestion. Claim 16 as amended recites “offspring of the plant individual that contains arachidonic acid.” The rejection is thus moot. Applicants respectfully request withdrawal of the rejection and allowance of claim 16.

**10. Rejection of the Claims Under 35 U.S.C. § 102(b)**

The Office rejects claims 1-3 and 5-22 under 35 U.S.C. § 102(b) as allegedly anticipated by **Mukerji et al.**, WO 99/64616 (“Mukerji”).

Mukerji allegedly discloses the following:

- 1) arachidonic-containing plants are generated by transforming plants with genes from *Mortierella alpina*,
- 2) the genes are present in recombinant expression vectors;
- 3) the genes may include  $\Delta 5$  desaturase, fatty-acid-chain elongase, and  $\Delta 6$  desaturase;
- 4) the genes are operable linked with a seed-specific promoter;
- 5) compositions comprising arachidonic acid may be extracted from the plants;
- 6) additional nucleic acid sequences, such as sequences inhibiting  $\Delta 15$  desaturase expression, may be transformed into the plants to improve arachidonic acid production; and

- 7) arachidonic acid may be produced from plant parts or the offspring of the transformed plants.

Office Action, pages 4-7.

Applicants traverse the rejection to the extent it may be applied to the amended claims. For prior art to anticipate a claim, the reference must disclose each and every element of the claim explicitly or inherently. *See, e.g., In re Rijckaert*, 9 F.3d 1531, 1534, 28 U.S.P.Q.2d 1955, 1957 (Fed. Cir. 1993). Mukerji fails to disclose each and every claim element and therefore cannot anticipate the claims as amended.

Claim 1 as amended recites, *inter alia*, an arachidonic acid-containing plant expressing at least  $\Delta 6$  desaturase, fatty-acid-chain elongase, and  $\Delta 5$  desaturase. At best, Mukerji may disclose a transgenic plant that (1) expresses a  $\Delta 5$ -desaturase gene, and (2) is capable of producing arachidonic acid. *See* Mukerji, Example 3, pages 22-23, and Table 1, page 25. Mukerji thus fails to disclose at least a plant expressing  $\Delta 6$  desaturase and fatty-acid-chain elongase genes—the other two genes recited in amended claim 1.

As the cited reference fails to disclose, explicitly or inherently, each and every element of claim 1, claim 1 as amended is novel. Claims 6-13 and 15-22 depend directly or indirectly from claim 1, and are likewise novel. Upon entry of the amendments, claims 2-3, 5, and 14 stand canceled, mooted the rejection. Accordingly, Applicants respectfully request withdrawal of the rejection and allowance of the claims.

**11. Rejection of the Claims Under 35 U.S.C. § 103(a)**

The Office rejects claim 4 under 35 U.S.C. § 103(a) as allegedly obvious over **Mukerji** in view of **Lerchl** et al., U.S. Patent No. 7,179,647 (“Lerchl”).

Mukerji’s teachings are as described in the above § 102(b) rejection. The Office admits that Mukerji fails to teach using a soybean promoter to control the expression of the fatty acid synthetase genes. Office Action, page 9. The Office apparently applies Lerchl to cure the defect. Lerchl allegedly teaches introducing suitable genes from other organisms into soybeans for polyunsaturated fatty acid production. *Id.* The Office alleges that it would have been obvious to a skilled artisan to make a transgenic soybean by using a soybean seed-specific

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promoter to control the expression of fatty acid synthetase genes from *Mortierella alpina*. *Id.*, at 9-11.

Upon entry of the present amendments, claim 4 stands canceled, mooted the rejection. Accordingly Applicants respectfully request withdrawal of the rejection.

### CONCLUSION

Should the Office have any questions or comments regarding Applicants' amendments or response, please contact Applicants' undersigned representative at (202) 842-8821.

Furthermore, please direct all correspondence to the below-listed address.

In the event that the Office believes that there are fees outstanding in the above-referenced matter and for purposes of maintaining pendency of the application, the Office is authorized to charge the outstanding fees to Deposit Account No. 50-0573. The Office is likewise authorized to credit any overpayment to the same Deposit Account Number.

Respectfully Submitted,

Date: April 9, 2010

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